

### REMARKS/ARGUMENTS

Claims 13-30 are active. Claims 11 and 12 have been withdrawn from consideration. Claims 13-30 track and find support in original Claims 1-10. Claim 13 also finds support in the specification in the paragraph bridging pages 17-18 which describes oxygen nucleophilic agents which are not  $X^-$  or its proton adduct. Claims 13-30 find specific support as follows: Claim 13 (Claims 1 and 3, pages 17-18), Claim 14 (page 8, line 11), Claim 15 (page 10, lines 19-21), Claim 16 (page 11, lines 3-11), Claims 17-20 (Claims 1 and 3), Claim 21 (page 21, line 12- *et seq.*), Claim 23 (Claim 2), Claims 24-27 (Claims 5-8, respectively), Claim 28 (Claim 4), Claim 29 (Claim 9), and Claim 30 (Claim 10). Accordingly, the Applicants do not believe that any new matter has been introduced.

The Applicants thank Examiner Keys for the courteous and helpful discussion of February 15, 2005. To help address the prior art rejection, it was suggested that the Applicants distinguish between the claimed process and the isomerization process of Retboll et al., U.S. Patent No. 6,300,515. Also, it was suggested that inclusion of the limitations--i.e., the allyl structure of formula (a)--of Claim 3 into Claim 1 would help overcome the rejection based on Chauvin, U.S. Patent No. 6,525,228.

### Aspects of the Invention

One object of the present invention was to obtain an allyl compound having a compositional formula different from that of an allyl starting material compound by reacting the allyl starting material compound and an oxygen nucleophilic agent in the presence of a particular transition metal compound and a particular multidentate phosphate. Conventionally, it was difficult to react an oxygen nucleophilic agent having a low reactivity with an allyl compound. However, it has been found by the present inventors that various allyl

compounds can be efficiently produced by employing a specific catalyst of the present invention with a sufficiently high activity.

#### Restriction/Election

The Restriction Requirement has now been made FINAL. The Applicants previously elected the subject matter covered by Group I, Claims 1-10.

#### Rejection—35 U.S.C. §102

Claims 1-8 were rejected under 35 U.S.C. 102(b) as being anticipated by Retboll et al., U.S. Patent No. 6,300,515. This rejection is moot in view of the cancellation of Claims 1-8. It would not apply to the new claims for the following reasons. Retboll is directed to an isomerization process and does not disclose production of a second allyl compound having a compositional formula distinct from that of the first (starting) allyl compound. Retboll only produces an isomer having the same compositional formula as the starting compound. Moreover, Claim 13 excludes such an isomerization by requiring that the oxygen nucleophilic group be different than X.

The reference discloses an isomerization technology of diacetoxybutene employing a transition metal compound and phosphite. In fact, the present application is a method for producing a desired compound having a compositional formula distinct from that of a starting material, whereas U.S. 6,300,515 only discloses a method for producing an isomer which specifically is a desired compound with the same compositional formula. Moreover, there is no disclosure or suggestion of the substitution reaction of the presently claimed method which produces a second allyl compound having a different compositional formula.

As discussed above, conventionally it was known that the reactivity of an allyl compound and an oxygen nucleophilic agent was very low. However, it was not known that

such a reaction could be carried out efficiently by employing the particular catalyst of the present invention. Accordingly, the Applicants respectfully submit that this rejection would not apply to the present claims.

Rejection—35 U.S.C. §102

Claims 1-8 were rejected under 35 U.S.C. 102(e) as being anticipated by Chauvin et al., U.S. Patent No. 6,525,228. This rejection is moot in view of the cancellation of Claims 1-8. It would not apply to the new claims for the following reasons.

Chauvin is directed to a starting material (reaction substrate) which is a conjugated diene. The present claims are directed to allyl compounds identified by formula (a).

Chauvin discloses telomerization of a conjugated diene where an addition reaction of a nucleophilic agent is carried out in the presence of a catalyst comprising palladium and an organic phosphorus compound. Generally, an allyl group is a compound having a C=C-CR<sub>2</sub>- structure, the CR<sub>2</sub> part of the allyl group is a group (not olefin) composed of an sp<sup>3</sup> carbon. On the other hand, the conjugated diene of U.S. 6,525,228 has a C=C-C=C structure, and has a reactivity essentially different from the allyl compound.

Further, the reaction of the present invention is a substitution reaction to an allyl compound, whereas a reaction described in Chauvin is a reaction where a nucleophilic agent reacts as an addition reaction to an intermediate produced after dimerization of the conjugated diene (e.g., butadiene). Namely, the present invention relates to a reaction quite distinct from a reaction in the reference. Chauvin discloses nothing about the present invention since the substrates and reactions are essentially different from those of the invention.

Further, there is no suggestion in Chauvin for the process of the present invention. The catalyst used is used in a completely different reaction (i.e., for the dimerization of the

conjugated diene and the substitution reaction of the nucleophilic agent. On the other hand, in the present invention the catalyst is employed for a substitution reaction of the nucleophilic agent to the allyl compound. Accordingly, the Applicants respectfully submit that Chauvin would not anticipate or render obvious the present claims.

CONCLUSION

In view of the above amendments and remarks, the Applicants respectfully submit that this application is now in condition for allowance. Early notification to that effect is earnestly solicited.

Respectfully submitted,

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